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09/726,401	12/01/2000	Jin Soo Lee	HI-028	1358

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EXAMINER
MAHMOUDI, HASSAN

ART UNIT	PAPER NUMBER
2175	

DATE MAILED: 10/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-13_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _11-13_ is/are allowed.

6)☒ Claim(s) _1-6, 8 and 10_ is/are rejected.

7)☒ Claim(s) _7 and 9_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☒ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

    DOV POPOVICI

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 2100

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2. Claims 1, 3-4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over <u>Wactlar</u>

<u>et al</u> (U.S. Patent No. 5,835,667) in view of <u>Vaithilingam et al</u> (U.S. Patent No. 6,411,724.)

As to claim 1, <u>Wactlar et al</u> teaches a Method for updating multimedia feature

information in a multimedia retrieval system (see Abstract), comprising the steps of:

(a) evaluating a retrieval performance using multimedia feature information (see column

10, lines 23-32);

(b) detecting change of retrieval environment based on the retrieval performance

evaluation (see column 11, line 66 through column 12, line 5, where "detecting change of

retrieval environment" is read on "detect big image changes"); and

(c) updating the reliability by reflecting the retrieval performance evaluation and the

retrieval environment change (see column 12, lines 47-51.)

<u>Wactlar et al</u> does not teach using weight of multimedia features and reliability of the

weight and does not teach updating the weight of the multimedia feature information.

Vaithilingam et al teaches using meta-descriptors to represent multimedia information (see Abstract), in which he teaches using weight of multimedia features and reliability of the weight (see column 6, lines 37-46); and updating the weight of the multimedia feature information (see column 9, lines 56-65.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Wactlar et al to include using weight of multimedia features and reliability of the weight; and updating the weight of the multimedia feature information.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Wactlar et al by the teaching of Vaithilingam et al, because by using weight of multimedia features and reliability of the weight; and updating the weight of the multimedia feature information, the system is enabled to set various characteristics to a multimedia file (data) and be able to adjust such characteristics in order to improve the quality and performance of the multimedia file, and further be able to measure the performances of "before" and "after" modifying such characteristics.

As to claim 3, Wactlar et al as modified teaches wherein the reliability update is proportionally influenced by the retrieval performance (see Vaithilingam et al, column 9, lines 56-60, where "retrieval performance" is read on "human expert's input".)

As to claim 4, <u>Wactlar et al</u> as modified teaches wherein the reliability update is proportionally influenced by improvement of the retrieval performances (see <u>Vaithilingam et al</u>, column 2, lines 13-15.)

As to claim 8, <u>Wactlar et al</u> as modified teaches wherein a reliability update is proportionally influenced by a ratio of the present retrieval performance to the previous retrieval performance (see <u>Wactlar et</u> al, column 12, lines 45-52. It is inherent in a system which updates the performance of the multimedia files with feedback received from users, that the actual update value is the difference between the previous performance and the present performance, hence, the update is directly proportional (proportionally influenced) by a ratio (percentage) of the present retrieval performance to the previous retrieval performance.)

3. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over <u>Vaithilingam et al</u> (U.S. Patent No. 6,411,724) in view of <u>Aggarwal et al</u> (U.S. Patent No. 6,408,293.)

As to claim 2, <u>Vaithilingam et al</u> teaches a Method for updating multimedia feature information in a multimedia retrieval system using weight of multimedia features and reliability of the weight (see Abstract), comprising the steps of:

(a) retrieving multimedia (see column 2, lines 13-15) using previous weight (see column 5, lines 22-39);

(c) calculating retrieval performance with respect to the results of present retrieval (see

column 5, lines 40-54, where "performance" is read on "how clearly defined and compact the

clusters are");

(d) updating the reliability of the present weight by reflecting the calculated retrieval

performance (see column 9, lines 56-65); and

(e) updating the present weight using the updated reliability (see column 14, lines 64-67.)

Vaithilingam et al does not teach (b) receiving one or more user feedbacks with respect to

results of the multimedia retrieval; and (c) calculating retrieval performance using the one or

more user feedbacks.

Aggarwal et al teaches an interactive framework for understanding user's perception of

multimedia data (see Abstract), in which he teaches receiving one or more user feedbacks

with respect to results of the multimedia retrieval (see column 3, lines 38-56); and calculating

retrieval performance using the one or more user feedbacks (see column 5, lines 10-15.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the

time the invention was made to have modified Vaithilingam et al to include receiving one or

more user feedbacks with respect to results of the multimedia retrieval; and calculating

retrieval performance using the one or more user feedbacks.

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified Vaithilingam et al by the teaching of Aggarwal et al,

because receiving one or more user feedbacks with respect to results of the multimedia

retrieval; and calculating retrieval performance using the one or more user feedbacks, would

enable the system to continuously improve the quality and performance of multimedia files

by presenting the files to the users, obtaining users' feedback on the files, and adjusting the

features of the files based on feedback received from users.

As to claim 10, <u>Vaithilingam et al</u> teaches a multimedia data structure for a multimedia

retrieval using weight of the multimedia feature and reliability of the multimedia feature (see

column 2, line 65 through column 3, line 5), comprising:

a reliability of present weight updated by reflecting retrieval performance (see column 9,

lines 56-65, where "updating weights" is read on "updating the meta-descriptors");

a present weight updated using the updated reliability (see column 14, lines 64-67.)

<u>Vaithilingam et al</u> does not teach the performance calculated using one or more user's

feedbacks with respect to a to multimedia retrieval result obtained using previous weight.

<u>Aggarwal et al</u> teaches an interactive framework for understanding user's perception of

multimedia data (see Abstract), in which he teaches the performance calculated using one or

more user's feedbacks with respect to a to multimedia retrieval result obtained using previous

weight (see column 2, lines 11-17, and see column 5, lines 3-15, where it is taught how the

user's feedback is used to adjust the measures.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the

time the invention was made to have modified <u>Vaithilingam et al</u> to include the performance

calculated using one or more user's feedbacks with respect to a to multimedia retrieval result

obtained using previous weight.

It would have been obvious to a person having ordinary skill in the art at the time the

invention was made to have modified <u>Vaithilingam et al</u> by the teaching of <u>Aggarwal et al</u>,

because having the performance calculated using one or more user's feedbacks with respect

to a to multimedia retrieval result obtained using previous weight would enable the system

where users would customize the properties of the multimedia contents based on their input

and preferences.

4. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wactlar et al

(U.S. Patent No. 5,835,667) in view of Vaithilingam et al (U.S. Patent No. 6,411,724) as

applied to claims 1, 3-4 and 8 above, and further in view of Aggarwal et al (U.S. Patent No.

6,408,293.)

As to claim 5, Wactlar et al as modified teaches a reliability update rate (see Wactlar et

al, column 12, lines 45-52.)

Wactlar et al as modified does not teach wherein the update rate is proportionally

influenced by number of feedbacks participated in calculation of s the retrieval performance.

Aggarwal et al teaches an interactive framework for understanding user's perception of

multimedia data (see Abstract), in which he teaches wherein the update rate is proportionally

influenced by number of feedbacks participated in calculation of s the retrieval performance

(see column 5, lines 3-15, where it is taught how the user's feedback is used to adjust the

measures.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the

time the invention was made to have modified Wactlar et al as modified to include the update

rate being proportionally influenced by number of feedbacks participated in calculation of s

the retrieval performance.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Wactlar et al as modified, by the teaching of Aggarwal et al, because having the update rate being proportionally influenced by number of feedbacks participated in calculation of s the retrieval performance, would enable the system where users would customize the properties of the multimedia contents based on their input and preferences.

As to claim 6, Wactlar et al as modified teaches the reliability update (see Wactlar et al, column 12, lines 45-52.)

Wactlar et al as modified does not teach wherein the update is proportionally influenced by the difference between the present and previous retrieval performances.

Aggarwal et al teaches an interactive framework for understanding user's perception of multimedia data (see Abstract), in which he teaches wherein the update is proportionally influenced by the difference between the present and previous retrieval performances (see column 2, lines 11-17.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Wactlar et al as modified to include the update being proportionally influenced by the difference between the present and previous retrieval performances.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Wactlar et al as modified, by the teaching of Aggarwal et al, because having the update being proportionally influenced by the difference between

the present and previous retrieval performances, would enable the system where users would

customize the properties of the multimedia contents based on their input and preferences by

calculating the difference between the previous feedback and the most recent feedback

received by the user.

Allowable Subject Matter

5. Claims 11-13 are allowed over the prior art made of record.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record, Wactlar et al (U.S. Patent No. 5,835,667), Vaithilingam et al

(U.S. Patent No. 6,411,724), and Aggarwal et al (U.S. Patent No. 6,408,293), do not disclose,

teach, or suggest the claimed limitations of (in combination with all other features in the

claim):

A method for updating weight of multimedia features using reliability of the weight in a

multimedia retrieval system using weight among multimedia features and weight among

elements of the multimedia feature, wherein the Is weight is updated based on the following

way that:

(a) the more times the previous feature weights are learned with the feedbacks from the

user, the less the feature weights are influenced by new feedback;

(b) the more recent the feedback is, the more the feedback influence to the feature

weights update; and

(c) learning rate of the weights among the multimedia features is higher than that of the

weights among elements of a multimedia feature, as claimed in claim 11.

Claim 12 is allowed because it is dependent from the allowed independent claim 11.

The prior art of record, Wactlar et al (U.S. Patent No. 5,835,667), Vaithilingam et al

(U.S. Patent No. 6,411,724), and Aggarwal et al (U.S. Patent No. 6,408,293), do not disclose,

teach, or suggest the claimed limitations of (in combination with all other features in the

claim):

A multimedia data structure for retrieval multimedia objects using weight among

multimedia features and weight among elements of the multimedia feature, wherein the

weight is updated based on the following way that:

(a) the more times the previous feature weights are learned with the to feedbacks from the

user, the less the feature weights are influenced by new feedback;

(b) the more recent the feedback is, the more the feedback influence to the feature

weights update; and

(c) learning rate of the weights among the multimedia features is higher is than that of the

weights among elements of a multimedia feature, in relation to the reliability formula,

[Reliability x Old_W + Cur_W] / [Reliability + 1] wherein, 0 < a < 1, and exponential term

"a" in the formula for weights of features is less than exponential term "a" in the formula for

weights of elements of a feature, as claimed in claim 13.

7. Claims 7 and 9 are objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim

and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record, <u>Wactlar et al</u> (U.S. Patent No. 5,835,667), <u>Vaithilingam et al</u>

(U.S. Patent No. 6,411,724), and <u>Aggarwal et al</u> (U.S. Patent No. 6,408,293), do not disclose,

teach, or suggest the claimed limitations of (in combination with all other features in the

claim):

wherein the reliability is calculated by a following formula:

previous reliability x (1 + reliability increment) + α

wherein,

reliability increment: a function that multiplies the difference between the present and

previous retrieval performance with the number of feedbacks.

α : constant for making the reliability value proportional to the number of feedbacks in

same condition, as claimed in claim 7.

The prior art of record, <u>Wactlar et al</u> (U.S. Patent No. 5,835,667), <u>Vaithilingam et al</u>

(U.S. Patent No. 6,411,724), and <u>Aggarwal et al</u> (U.S. Patent No. 6,408,293), do not disclose,

teach, or suggest the claimed limitations of (in combination with all other features in the

claim):

wherein the reliability is calculated by a following formula:

previous reliability x (1 + reliability increment) + α

wherein,

reliability increment: a function that multiplies the rate of the present retrieval

performance to the previous retrieval performance with the number of feedbacks.

α : constant for making the reliability value proportional to the number of s feedbacks in

same condition, as claimed in claim 9.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

The following patents are cited to further show the state of art with respect to methods

and systems of searching and retrieving multimedia data, obtaining user feedbacks on

multimedia data, and enhancing/updating the data with the obtained users' feedback in

general:

U.S. Patent No. 6,208,804 to <u>Ottesen et al</u>.

U.S. Patent No. 6,347,313 to <u>Ma et al</u>.

10. Any inquiries concerning this communication or earlier communications from the examiner

should be directed to Tony Mahmoudi whose telephone number is (703) 305-4887. The

examiner can normally be reached on Mondays-Fridays from 08:00 am to 04:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Dov Popovici, can be reached at (703) 305-3830.

tm

September 30, 2002

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